2007 Kansas State University Combined Research and Extension Annual Report

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I. Report Overview

1. Executive Summary

Last summer, we commissioned a telephone survey to get feedback on how K-State Research and Extension services are perceived and the value of those services. Of those surveyed, more than 96 percent rated the information we provide as somewhat or very credible. More than 97 percent of the respondents said that it is somewhat or very important for the state of Kansas to have the type of services we provide. We see these numbers as positive reinforcement that K-State Research and Extension is serving the people of Kansas. The credibility statement brings to mind a comment by Gale Buchanan, USDA under secretary for research education, and economics, “Research not only has to be good, but good for something.” We are confident that K-State Research and Extension is conducting quality research that benefits Kansans. We also are fulfilling the three-part mission of the land-grant university system by bringing research and extension faculty and their research results into the classroom. We have established valuable partnerships around the state, the nation, and the world. With an office in each county, K-State Research and Extension has a unique opportunity to share research-based information related to the environment, families, communities, and production agriculture. We are providing “Knowledge for Life."

Total Actual Amount of professional FTEs/SYs for this State

Year:2007	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	259.0	0.0	338.0	0.0
Actual	422.0	0.0	212.0	0.0

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

- Internal University Panel
- Expert Peer Review

2. Brief Explanation

Peer and merit review of all K-State Research and Extension Action Plan proposals is conducted by experts with knowledge of the relevant science and social systems to evaluate quality and relevance to program goals. Such reviews are conducted on all projects supported with Hatch, Multistate Research, Smith-Lever, and Kansas State appropriated funds. In the year just ended, such reviews played a key role in allocating formula funds through a “Mini-Grant Program” linked to the extraordinary one-time increase in such funds through the FY2007 budget process. Reviewers with appropriate expertise are identified in a collaborative process including the relevant Department Heads, Unit Leaders, and Associate Directors for Research and/or Extension. Three reviewers are selected for each project. In cases where additional expertise is required, the experts are recruited from other Universities or centers of expertise. A form is used to guide reviewers. It challenges reviewers to consider the following points: (1) relevance to K-State Research and Extension core mission themes and long-term intended outcomes; (2) background and significance, including the investigators’ grasp of relevant scientific literature—a review of the most significant published work in the field is required; (3) appropriateness and likelihood of success for the detailed plan of action; (4) impacts and outcomes—do the objectives show a specific relationship to the improvement of Kansas agriculture and societal issues? Applicants are required to present a description of the proposed project in non-technical language to increase accessibility and broad understanding of the project. Particular attention is given to the methods to be utilized in carrying out the proposed project, asking if the methods are stated clearly and relate to accomplishing each stated objective in a specific manner. A recommendation of approval or disapproval must be included in the review. When reviews are complete, the Department Head or Unit Leader meets with the applicant(s) to discuss the reviews and identify the revisions that need to be completed. A final revised version of the proposal is reviewed by the Associate Director for Research and/or Extension, and approved as appropriate for final review by National Program Leaders at USDA/CSREES. This process ensures that action plans adequately and appropriately address issues that make a positive difference in the lives of stakeholders. On a regular basis, as projects are conducted, investigators and team leaders meet with stakeholders from all sectors to validate the goals, objectives and on-course progress of the program.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged their participation

- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Other (Survey of underserved, minority groups)

Brief Explanation

* K-State Research and Extension is rich with advisory panels, teams, councils, and committees through every discipline of research and extension work. In Kansas, local Cooperative Extension is organized with elected program development committees. Individuals throughout the community are targeted to seek election for their experience and interest broadly in needs and issues of agriculture, family, youth, and community. Six individuals are elected to each of the four committees in all counties across the state. This equates to roughly 2500 private citizens taking an active roll as stakeholders in setting programmatic priorities for extension programming at the local level. Each year, the leadership of these local councils are invited to a one-day training and dialog event at four locations across Kansas. This day-long meeting includes updates on their roles and responsibilities as stakeholders for the extension program. * In 2007, a targeted survey was conducted statewide to gather input broadly on the interests, needs, and issues of families in Kansas. This survey is conducted through each county with a target of both users and non-users of Extension. Additionally, minority and under-served individuals are sought to provide input on their interests and needs to better serve that broader clientele.* Nearly every one of our academic disciplines and our out-state research and extension centers also operates with an advisory group. Those advisory groups are recruited through defined criteria to see that a broad set of interests and backgrounds are represented. Typically, these advisories meet with administration and faculty once or twice per year to review progress on key initiatives and to gather input on future directions and priorities for the discipline or the center.

2(A). A brief statement of the process that was used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use Advisory Committees

Brief Explanation

* Following are two examples of processes used to select advisories. First, the Director of K-State Research and Extension and Dean of Agriculture has an advisory that is carefully selected through a nomination process. The individuals invited to serve are selected based upon the target audience represented, gender, race, ethnicity, and leadership. This group meets three times annually to review programs and provide advice to the Director on key initiatives to strengthen the programs in research, extension, and teaching. * A second example is with the State Extension Advisory Council. This group is elected through their leadership on local Extension Boards. Individuals are approached and encouraged to accept nomination to the process. Then their peers go through an election process to identify the representatives they wish to serve on this advisory. This advisory meets twice annually with the Extension director and the administrative team to identify priorities and opportunities to fulfill the mission.

2(B). A brief statement of the process that was used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Meeting with the general public (open meeting advertised to all)
- Meeting specifically with non-traditional groups
- Meeting with invited selected individuals from the general public
- Other (Telephone random survey)

Brief Explanation

* Stakeholder input is a continuous process across the breadth of programming for research and extension educational programs in an effective grass-roots organization like K-State Research and Extension. Stakeholder input happens through local, regional, state, multi-state, and national input processes. The stakeholder input process is a comprehensive effort to seek focus on critical issues and problems needing research and answers that fit well within our defined mission priorities. This input continues throughout planning, project implementation, and program delivery. * Specifically, face-to-face meetings that include strategic planning, small group process, reporting back to the recipient institution are commonly used. Nominal group processes are employed to assure hearing of all voices. With the State Extension Advisory Council, that group is given the task to seek input from others outside of the face to face meeting, and to bring that knowledge and experience to the meetings through their sharing of such input. * In seeking specific input, we have employed telephone random survey processes to help us understand how well we market our information, education, and programs as an organization. This information goes into a strategic market planning process to help us to reach a broader clientele, especially minority and under-served audiences. * We have stakeholder groups who aim at our non-traditional audiences and programming. Specifically, the Kansas Center for Sustainable Agriculture and Alternative Crops operates with an advisory council for the expressed purpose of providing input on projects and ideas across both research and extension. This group assists in identifying opportunities for directing seed grant funds to research and extension faculty to better reach non-traditional needs and audiences.The breadth of advisory groups giving input and sharing needs and ideas range from the traditional Dean’s advisory council to advisories working through every academic department and research / extension center to every local Extension office. Within program areas, we have advisors made up of stakeholders in areas of family nutrition, meat science, food science, crop commodity groups, livestock commodity groups, agricultural bankers, and the list goes on. We estimate that at any given time K-State Research and Extension has formal relationships with over 200 advisory stakeholder groups who provide continuous input and feedback on the research and extension initiatives, priorities, and direction.

3. A statement of how the input was considered

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities

Brief Explanation

* In 2005, a strategic planning process for the Cooperative Extension mission of K-State Research and Extension was completed. The 34-member task force that worked to complete this process was carefully constructed to involve a balance of key leadership among our broad stakeholders and personnel within our faculty and agent ranks. The purpose of the strategic planning was to identify key principles that must be given attention to assure the future to a relevant, sustainable, quality Extension Service in Kansas. The process included three facilitated day-long meetings and interim reports posted on our website to solicit further external input. Focus was given to organizational structure and staffing, resource development, systems of education and information dissemination, and constituent development and marketing. A series of recommendations was identified by the task force. In 2006, the strategic planning recommendations were distributed widely within and outside the organization and planning and implementation processes developed to address key issues. Some of those issues include strengthening professional development, increasing program depth and focus of our local extension programs, moving forward on multi-county models of program delivery, multi-state programming initiatives, and enhanced training for stakeholders in the advocacy process. * In 2007, that strategic planning process has resulted in targeting $275,000 annually over the next three years towards enhanced professional development for our faculty in becoming better Extension professionals. A redesign of our employee resource website was undertaken to make it easier for our faculty and staff to organize and plan for their personal professional development. We targeted hires of Extension faculty who are multi-lingual and able to interact more directly with our Latino families. We organized a new Center for Engagement to bring the broader resources of the campus to the issues and needs of the people of Kansas. We streamlined our hiring process to refill positions in a shorter time frame while at the same time maintaining our high standards of affirmative action process. We brought faculty together to address critical emerging issues in energy, bio-security, immigration, rural development, and our aging populations in rural Kansas.

Brief Explanation of what you learned from your Stakeholders

Industry trends, entrepreneurial interests, gaps in knowledge and understanding, problems and pitfalls in adaptations of knowledge and technology, lack of information within a given commodity production or processing system are all common learning experiences for faculty and administration in our listening relationship with key stakeholders. An example has been in our listening to the interests and needs of the grape and wine producers in Kansas. While research and extension within Kansas State University does not have an investment of human resource to address the knowledge and technology needs of the grape producers, we have listened to their interests and needs and we are currently working out an agreement among Kansas State University, the University of Missouri, Kansas Department of Agriculture, and Kansas Department of Commerce to bring educational programs and support to that industry through a joint agreement where the University of Missouri has that expertise.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
5090294	0	5992866	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	3199644	0	3591492	0
Actual Matching	11641334	0	31687852	0
Actual All Other	18346020	0	3525682	0
Total Actual Expended	33186998	0	38805026	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years				
Carryover	1785923	0	764763	0

V. Planned Program Table of Content

Program #1

V(A). Planned Program (Summary)

1. Name of the Planned Program

Healthy Communities: Youth, Adults and Families

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
724	Healthy Lifestyle	20%		10%	
801	Individual and Family Resource Management	10%		15%	
802	Human Development and Family Well-Being	15%		20%	
803	Sociological and Technological Change Affecting Individuals,	15%		15%	
806	Youth Development	40%		10%	
903	Communication, Education, and Information Delivery	0%		30%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	24.6	0.0	2.3	0.0
Actual	6.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1220830	0	575994	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
3926880	0	5082014	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
6078720	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

• Develop/identify theory- and evidence-based educational programs to promote healthy communities: youth, adults, and families. • Disseminate, implement, and evaluate effectiveness of programs to promote healthy communities: youth, adults, and families. • Strengthen collaborative capacity within K-State Research and Extension and among communities/ organizations to promote healthy communities: youth, adults, and families. • Provide technical assistance and educational programs to citizens seeking to make their communities healthy and sustainable places for meeting human needs. • Establish links between community development researchers and practitioners for cooperative efforts that result in healthy, sustainable communities. • Provide experiential learning opportunities for children and youth to address key and emerging issues that affect their growth and development. • Deliver and evaluate evidence-based community-development strategies for positive youth development in structured out-of-school settings (e.g., after-school programs, youth-serving organizations, clubs). • Strengthen the support for a volunteer development system through training and education on the experiential learning model, 4-H essential elements, ISOTURE model, age appropriate learning experiences and emerging aspects of youth development. • Provide imaginative, motivational, and experiential learning experiences to help youth build competencies and master life skills.

2. Brief description of the target audience

• Families and individuals of all ages living in Kansas, including populations with limited resources; low literacy skills; varying ethnicities; disabilities, diseases, or impairments; and documented or identifiable health disparities • Economic stakeholders, and policy and funding agencies • Health care and education professionals • K-State Research & Extension faculty and staff with responsibilities for healthy communities: youth, adults, and families

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	22000	55500	20000	60000
2007	19490	0	12708	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational programs delivered to increase knowledge of healthy communities: youth, adults, and families

Year	Target	Actual
2007	500	0

Output #2

Output Measure

- Number of program participants

Year	Target	Actual
2007	20000	20200

Output #3

Output Measure

- Number of educational programs to increase knowledge of volunteer development, ISOTURE, experiential learning and youth

Year	Target	Actual
2007	20	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Percentage of parents reporting improved parent/child and/or parent/parent communication
2	Percentage of participants who participate in regular physical activity
3	Percentage of participants intending to increase their physical activity
4	Number of substantial community projects that reflect shared participation in addressing community goals
5	Number of volunteer hours of community members engaged in community improvement programs
6	Number of volunteers, faculty and staff who understand and demonstrate the use of youth development competencies, life skills development, and the essential elements of a positive learning environment.
7	Number of youths who improve connectedness with parents, peers and other adults; improve their sense of social place/integration; improve attachments to prosocial/conventional institutions; express confidence in one's personal efficacy; demonstrate good emotional self regulation, coping, and conflict management skills.
8	Increased number of participants who have established financial goals to guide financial decisions toward financial security
9	Number of households showing decreased outstanding consumer debt

Outcome #1

1. Outcome Measures

Percentage of parents reporting improved parent/child and/or parent/parent communication

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Data for this outcome was not collected.

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #2

1. Outcome Measures

Percentage of participants who participate in regular physical activity

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Inactivity and poor eating habits lead to being overweight, increased obesity, and diabetes. Medical research shows that exercise and weight loss can permanently or temporarily delay the onset of Type 2 diabetes in 58% of people.

What has been done

Programs such as Walk Kansas, Community Meltdown, and Strong Women provide team-based opportunities to engage in increased physical activity.

Results

Introducing people to exercise programs like Strong Women/People can have a significant impact on their long-term health and financial status. The potential long-term impact is that medical research shows that exercise and weight loss can permanently or temporarily delay the onset of Type 2 diabetes in 58% of people. In the Community Meltdown program, participants indicating they were physically active at least 30 minutes a day on five or more days per week increased from 28% to 58% during an eight-week team based-challenge.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #3

1. Outcome Measures

Percentage of participants intending to increase their physical activity

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Education about the benefits of physical activity are needed for these food stamp eligible clientele.

What has been done

They were encouraged to increase their consumption of fruits and vegetables and to balance the food they eat with physical activity.

Results

Sixty-four percent of those participating in lessons about physical activity in the Family Nutrition Program intend to increase their physical activity.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #4

1. Outcome Measures

Number of substantial community projects that reflect shared participation in addressing community goals

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	621

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In a time of shrinking rural populations, Kansas PRIDE recognizes that developing livable communities involves looking as several aspects of community life.

What has been done

Enrolled communities are asked to examine the local social, economic, and physical environment by completing a Community Assessment Tool. Through this citizen-based community development program, local volunteers are encouraged and empowered to improve the quality of life in their communities.

Results

Sixty-three communities participated in 2007. Community PRIDE groups completed 621 community improvement projects. This number does not include ongoing efforts such as community welcome programs, food pantries, or ongoing community services. The 84,207 hours of citizen involvement through Kansas PRIDE at $18.77 per hour is valued at over $1,580,565 of volunteer investment in Kansas communities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Fam

Outcome #5

1. Outcome Measures
Number of volunteer hours of community members engaged in community improvement programs

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	70000	84000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The philosophy of community development that Kansas PRIDE encourages is based on the fundamental valuing of volunteer citizen participation.

What has been done

Public involvement in community improvement projects enhanced sustainability of social groups in communities, generateed a sense of pride among citizens, and built the capacity of individuals and groups within the community to effectively address current and future community development issues.

Results

Citizens in Kansas PRIDE communities invested an estimated over 84,000 hours of service to their communities in 2007.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Fam

Outcome #6

1. Outcome Measures

Number of volunteers, faculty and staff who understand and demonstrate the use of youth development competencies, life skills development, and the essential elements of a positive learning environment.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Junior Master Gardener youth gardening program supports individual, family, or community horticulture learning opportunities. Through involvement in this hands-on project, youths learn about horticulture as well as health, nutrition, food safety and decision-making. JMGs are encouraged to give back to their communities through service learning projects.

What has been done

Classroom teachers, HeadStart teachers, volunteers and extension staff participate in in-service training utilizing the FNP approved youth nutrition curriculum while focusing on the experiential learning model. Extension Master Gardeners volunteered their expertise and provided 177.5 hours to align two of the Junior Master Gardener (JMG) books with the Kansas Education Standards for Math, Science, Reading, Writing, and Social Studies, as well as Library/Media.

Results

As a result of four training workshops, 37 extension agents, staff, and volunteers learned how to utilize the JMG curriculum. Through in-service training for 65 HeadStart staff members, participants were trained to utilize the JMG curriculum with pre-school children. Sixteen new JMG groups were registered.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development
724	Healthy Lifestyle

Outcome #7

1. Outcome Measures

Number of youths who improve connectedness with parents, peers and other adults; improve their sense of social place/integration; improve attachments to prosocial/conventional institutions; express confidence in one's personal efficacy; demonstrate good emotional self regulation, coping, and conflict management skills.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	8498

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Kansas 4-H Shooting Sports is a means by which thousands of youth are taught life skills. Youth receive immediate feedback on their skill performance as they strive to attain mastery.

What has been done

As a result of local 4-H shooting sports programs, 8, 498 youth contacts were made with 5,656 enrolled members in long-term, continuous contact programs; 465 certified volunteers provided 12,803 hours of instruction to Kansas youths in this program. Certified 4-H Shooting Sports instructors are provided basic instruction in youth development, experiential learning skills and one-on-one coaching.

Results

Each time a youth safely picks up a gun or bow, checks it for readiness to shoot, makes sure all pathways to the target are clear, clears their mind, finds their mark, aims and shoots, they are learning patience, how to remain calm, do the correct and safe steps, set goals, aim for them and attempt to attain those goals. Participants transfer the interpersonal skills learned in the 4-H shooting sports club/group when interacting with caring adults and other peers in school, on other teams, or in the workplace. Those involved in shooting sports gain self confidence which helps them overcome obstacles and teaches them how to critically think about their previous performances in order to be as or more successful on their next attempt.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #8

1. Outcome Measures

Increased number of participants who have established financial goals to guide financial decisions toward financial security

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	214

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

People are not saving enough toward retirement or to even manage critical short-term financial situations.

What has been done

Starting Your Investment Program with $1 to $1,000 is a basic savings and investment education program that agents deliver at local worksites. A 10-lesson series that includes a lesson plan, handout, power point presentation, and evaluation for each lesson may be offered as a traditional classroom series, as a web-based learning experience, or on CD as a part of new employee orientation, or at strategic times throughout the year.

Results

As a result of the class, 90% increased their financial management skills; 73% set new or different savings or investment goals. After three months, 51% had better balanced their investments among pre-tax and after tax options. Two hundred fourteen people registered as Kansas Savers and established a financial goal to increase savings and reduce debt to guide financial decisions toward financial security.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #9

1. Outcome Measures
Number of households showing decreased outstanding consumer debt

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Consumer debt is increasing.

What has been done

Financial management programs.

Results

Data not being collected at this time.

4. Associated Knowledge Areas

KA Code	Knowledge Area

801 Individual and Family Resource Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programatic Challenges

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

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Evaluation Results

Key Items of Evaluation

Program #2

V(A). Planned Program (Summary)

1. Name of the Planned Program

Safe Food and Human Nutrition

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
702	Requirements and Function of Nutrients and Other Food Cor	15%		15%	
703	Nutrition Education and Behavior	30%		20%	
711	Ensure Food Products Free of Harmful Chemicals, Including	15%		15%	
712	Protect Food from Contamination by Pathogenic Microorgani	30%		30%	
723	Hazards to Human Health and Safety	0%		10%	
724	Healthy Lifestyle	10%		0%	
802	Human Development and Family Well-Being	0%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	7.4	0.0	19.7	0.0
Actual	1.2	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
268818	0	254115	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
846248	0	2242065	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
8071130	0	70374	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

• Develop new rapid methods for the surveillance, detection, isolation, and quantification of microbes and chemical residues in animals, plants, and food products. • Develop risk monitoring techniques to detect potential hazards in the distribution chain. • Disseminate food safety and bio-security information through extension and research seminars, workshops, and resident and distance education programs, using a variety of media options and communication tools. • Offer safe food production, handling, and sanitation education to groups involved in all levels of food production and service. • Identify best management practices to prevent foodborne illness and to enhance the security of the food supply throughout the food chain. • Increase understanding of the role of food and its components in improving human health and reducing the risk of nutrition related disorders. • Develop technology to reduce the hazards and improve the quality of animal food products, which will complement the development of HACCP programs by USDA. • Design systems to preserve, prepare, and store foods and agricultural products to enhance nutrients and bioactive compounds and educate consumers about these systems. • Develop, complement, and maintain an aggressive technology transfer system that effectively communicates work about Safe Food and Human Nutrition to consumers, students, industry, government, and other scientific investigations.

2. Brief description of the target audience

• Growers and processors of agricultural commodities, commercial and non-commercial food service personnel, market and home gardeners, other food handlers, retail markets, consumers, and educators • Families and individuals of all ages living in Kansas, including populations with limited resources; low literacy skills; varying ethnicities; disabilities, diseases, or impairments; and documented or identifiable health disparities • Economic stakeholders, and policy and funding agencies • Health care, education, and nutrition professionals • K-State Research & Extension faculty and staff with responsibilities for food and/or nutrition • Government • Consumer groups (i.e., STOP)

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	500	5000	500	2000
2007	120	1500	500	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	20	20

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of rapid methods developed for the surveillance, detection, isolation, and quantification of microbes and chemical resi

Year	Target	Actual
2007	1	2

Output #2

Output Measure

- Number of therapeutic, chemical, and physical treatments developed for animals and plants and their products to eliminate or

Year	Target	Actual
2007	1	2

Output #3

Output Measure

- Number of extension and research seminars, workshops, and other educational programs presented using a variety of media

Year	Target	Actual
2007	100	15

Output #4

Output Measure

- Number of attendees at educational programs (previous item) whether growers, processors, commercial and non-commercial

Year	Target	Actual
2007	5000	1000

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Percentage of individuals and families who have reduced anxiety related to food security
2	Number of participants making healthier food choices
3	Increase in knowledge level and attitude of clientele in safe food production, handling, and sanitation programs; best management practices to prevent foodborne illness; and social, economic, and communications issues related to food safety and agricultural bio-security
4	Number of persons demonstrating ability to choose or prepare foods with reduced fat and/or calories
5	Number of persons demonstrating the ability to recognize USDA serving sizes
6	Percent of participants increasing knowledge of storing foods properly
7	Number of participants passing food handler certification
8	Decreased incidence of food borne illness associated with unsafe food handling practice *Will not be measured in the near future
9	Decreased risk factors for chronic disease
10	Number of individuals and families who have adopted best management practices for food handling and agricultural biosecurity
11	Number of participants with increased knowledge of compounds beneficial to human health that can be found in Kansas food products, in particular wheat

Outcome #1

1. Outcome Measures

Percentage of individuals and families who have reduced anxiety related to food security

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	20

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Low resource families frequently run out of food before the end of the month.

What has been done

Participants are taught (knowledge and skills) to stretch their food dollar.

Results

Eighty-four percent of EFNEP participants seldom or never ran short of food before the end of the month.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety

Outcome #2

1. Outcome Measures

Number of participants making healthier food choices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Data unavailable

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #3

1. Outcome Measures

Increase in knowledge level and attitude of clientele in safe food production, handling, and sanitation programs; best management practices to prevent foodborne illness; and social, economic, and communications issues related to food safety and agricultural bio-security

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	1000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Food safety, from farm to table, is a complex issue with vast implications.

What has been done

The focus on microbial food safety continues to be on methods development and validation studies. That work continues to be transferred to end users through efforts such as the Rapid Methods and Automation in Microbiology Workshop. The chemical food safety effort continues to attract recognition because of work on ammonia contamination, heterocyclic amines and methods for measuring irradiation of beef. Additionally the economics, policy, and trade implications of food safety as well as food security are also reported.

Results

This farm-to-table, information and transfer approach—covering food safety as well as security—including integration of the economic, trade and policy aspects, has positioned the Food Safety Consortium to lead to the future in a comprehensive way relative to scientific discovery, technology transfer and education.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
712	Protect Food from Contamination by Pathogenic Microorganisms, Pa

Outcome #4

1. Outcome Measures

Number of persons demonstrating ability to choose or prepare foods with reduced fat and/or calories

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	178000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Concern for personal health and nutrition.

What has been done

Through EFNEP, FNP, and What's Cookin' with Diabetes, participants learned nutrition information and how to use it in their daily lives.

Results

EFNEP Contacts- 1,153 families with 1,637 children; 5,249 youth.
Ninety-six percent of EFNEP participants improved in one or more nutrition practices; 85% of EFNEP participants improved nutrition practices in two or more ways.

FNP Contacts: 178,000 64% of FNP participants intend to consume more servings of whole grains per day; 61% of FNP participants intend to consume a wider variety of fruits and vegetables per day; 60% of FNP participants intend to consume more servings of fruit and vegetables per day
59% of FNP participants intend to consume meals that include a variety of foods from MyPyramid more often.
* What's Cookin' with Diabetes: In the fall of 2007, for the third year, the program What's Cookin' with Diabetes was offered through a collaboration of KSRE, Blue Cross and Blue Shield of Kansas, and Prime Therapeutics of Kansas and expanded this year to include nine programs. At one site, Garden City, the program was broadcast live over interactive television to 10 small rural hospitals in western Kansas. We again offered one session in Spanish with our nutrition education print materials in Spanish also.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #5

1. Outcome Measures
Number of persons demonstrating the ability to recognize USDA serving sizes

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Data unavailable

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #6

1. Outcome Measures

Percent of participants increasing knowledge of storing foods properly

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	525

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Five hundred twenty-five individuals participated in entry level ServSafe classes. Seventy-seven percent of 2006 EFNEP participants showed improvement in one or more food safety practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Pa
723	Hazards to Human Health and Safety

Outcome #7

1. Outcome Measures

Number of participants passing food handler certification

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	348

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A recent study reported that only 10% of Americans got foodborne illness in the past year. However, current published statistics indicate that over 25% of Americans suffer from foodborne illness. There is a need for education to reduce the risks associated with foodborne illness.

What has been done

Four hundred three participated in ServSafe training and took the certification exam.

Results

Three hundred forty-eight passed the certification exam.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
712	Protect Food from Contamination by Pathogenic Microorganisms, Pa

Outcome #8

1. Outcome Measures
Decreased incidence of food borne illness associated with unsafe food handling practice *Will not be measured in the near future

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Data not being collected.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Pa
723	Hazards to Human Health and Safety

Outcome #9

1. Outcome Measures

Decreased risk factors for chronic disease

2. Associated Institution Types

{No Data Entered}

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

{No Data Entered}

What has been done

{No Data Entered}

Results

{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	

Outcome #10

1. Outcome Measures

Number of individuals and families who have adopted best management practices for food handling and agricultural biosecurity

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	348

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Four hundred three people participated in training and took the certification exam; 348 passed the certification exam.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Pa
723	Hazards to Human Health and Safety

Outcome #11

1. Outcome Measures

Number of participants with increased knowledge of compounds beneficial to human health that can be found in Kansas food products, in particular wheat

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Pa
711	Ensure Food Products Free of Harmful Chemicals, Including Residu
702	Requirements and Function of Nutrients and Other Food Components
724	Healthy Lifestyle

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

-

Evaluation Results

Key Items of Evaluation

Program #3

V(A). Planned Program (Summary)

1. Name of the Planned Program

Economic Development through Value-Added Products

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	40%		40%	
502	New and Improved Food Products	0%		20%	
511	New and Improved Non-Food Products and Processes	40%		20%	
601	Economics of Agricultural Production and Farm Management	0%		10%	
603	Market Economics	20%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	6.6	0.0	25.1	0.0
Actual	0.8	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
124576	0	152469	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
444461	0	1345239	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
376510	0	452763	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

• Increase awareness of value of biobased products in the commercial marketplace. • Develop new processes to modify agricultural-based materials into higher value products. • Enhance utilization of co-products from processing of agricultural materials in various applications. • Assess constraints and value opportunities for Kansas agricultural goods. • Emphasize conversion of cellulosic materials to ethanol.

2. Brief description of the target audience

• Growing industry based on bioprocessing and bioconversion, including the existing ethanol and biofuels industry. • International grain processors. Industrial products manufacturers: adhesives, composites, bio-based chemicals, solvents and lubricants. • Entrepreneurs and investors seeking to enter this industry.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	30	150	100	300
2007	300	0	100	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	2
2007 :	1

Patents listed

* Laser Beam Tenderization of Meat and Meat Products, including Beef, Pork, Poultry, Lamb, Mutton, and Meat from Goats, American Bison, Cervids, Wild Ruminants, and Wild Swine

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	3	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of presentations at national and international conferences

Year	Target	Actual
2007	20	15

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Number of new processes to improve utilization of biological raw materials as bioconversion substrates
2	Percent growth in income and employment attributed to bio-based agriculture and food related businesses.
3	Number of new bio-based businesses created.
4	Percent growth in existing value-added business entities.

Outcome #1

1. Outcome Measures

Number of new processes to improve utilization of biological raw materials as bioconversion substrates

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Improve utilization of agricultural, bio-based materials

What has been done

Adhesives developed from soy protein. Patent application submitted on process to improve value of distillers grain from ethanol process. Process research showed differentiation between conversion requirements for different types of biomass.

Results

Discussion with soy processors and adhesive producers on soy adhesive. Implementation of improved process for distillers grain by ethanol producer. Research continuing on improving cellulosic biomass conversion to bio-fuels.

4. Associated Knowledge Areas

KA Code	Knowledge Area
511	New and Improved Non-Food Products and Processes

Outcome #2

1. Outcome Measures

Percent growth in income and employment attributed to bio-based agriculture and food related businesses.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Biofuels have grown rapidly in the last year in response to need for ethanol.

What has been done

Research on distillers grain utilization has helped drive awareness of the importance of this component of the output from the ethanol plants to their overall economic health.
Specific research has shown how to improve the value of distillers grain.

Results

Abengoa Bioenergy is in the process of implementing the process in their plants.

4. Associated Knowledge Areas

KA Code	Knowledge Area
511	New and Improved Non-Food Products and Processes
601	Economics of Agricultural Production and Farm Management

Outcome #3

1. Outcome Measures

Number of new bio-based businesses created.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Ethanol is needed to replace gasoline in the US transportation fuel pool.

What has been done

At least two new plants have come on line in Kansas in 2007.

Results

Nationally, ethanol production capacity is above 9 billion gallons/yr. This represents about 4% of our national transportation fuel energy demand.

4. Associated Knowledge Areas

KA Code	Knowledge Area
511	New and Improved Non-Food Products and Processes
601	Economics of Agricultural Production and Farm Management

Outcome #4

1. Outcome Measures

Percent growth in existing value-added business entities.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

US demand for energy is outrunning the capacity for it to be provided by fossil fuel resources.

What has been done

Efforts have been intensified to provide renewable energy alternatives. At K-State, we have established the Center for Sustainable Energy to coordinate and encourage growth in this research area and in commercialization of the results.

Results

The general agriculture economy has benefited from the higher crop prices (e.g., wheat, corn, soybeans).

4. Associated Knowledge Areas

KA Code	Knowledge Area
511	New and Improved Non-Food Products and Processes
601	Economics of Agricultural Production and Farm Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

-

Evaluation Results

Key Items of Evaluation

Program #4

V(A). Planned Program (Summary)

1. Name of the Planned Program

Natural Resources and Environmental Management

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	15%		15%	
111	Conservation and Efficient Use of Water	30%		30%	
112	Watershed Protection and Management	30%		20%	
121	Management of Range Resources	15%		20%	
141	Air Resource Protection and Management	10%		15%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	16.0	0.0	12.0	0.0
Actual	3.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
271450	0	1050342	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1126450	0	9267202	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1560600	0	195929	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

• Review existing and ongoing research to evaluate utilization of precipitation and extent of protective land cover for semi-arid crop systems which differ in cropping intensity, (i.e., number of crops harvested in a rotation cycle). • Emphasize the importance of integration of water and nutrient management to agricultural producers. • Develop a decision model and improved management practices for limited irrigation. • Evaluate improved management and disseminate information for improving water conservation in urban and suburban settings. • Provide education and training in irrigation scheduling and new technologies for Certified Crop Advisors (CCAs). • Use the Mobile Irrigation Lab to educate irrigators about water conservation and management and demonstrate improved technologies. • Evaluate optimum cropping systems and dryland, no-till crop production systems using models and field trials. • Demonstrate Best Management Practices (BMPs) to avoid groundwater pollution from application of manure to cropland. • Conduct an educational program and public awareness campaign aimed at citizen action to meet TMDLs, especially abatement of fecal coliform bacteria. • Provide educational and technical assistance for improved waste management to livestock producers. • Evaluate BMPs for reducing phosphorus, sediment, and pesticides in surface runoff from cropland and grazing lands. • Evaluate the benefits and design of riparian buffers and other kinds of vegetated filter strips for Kansas. • Conduct water quality assessments for watersheds that drain into important public water supply reservoirs in Kansas. • Protect existing riparian forest lands and implement BMPs to improve health and productivity to reduce non-point source pollutants in surface waters. • Provide education and assistance in urban water quality restoration and protection planning for local governments. • Validate and implement a Phosphorus Site Index in Kansas. • Achieve a better understanding of nitrogen build up in soils where manure is applied and consequences of nitrogen buildup through research and experience with nutrient management planning. Identify trade-offs between N-based and P-based manure application. • Provide education and training in water quality planning and management to local government entities. • Evaluate "green technologies" for treating and managing storm water runoff in an urban setting (Topeka). • Identify sources of fecal bacteria using bacteria source tracking in the Wichita area. • Provide environmental education to youths through the EARTH program. • Evaluate best management practices for the ability to sequester carbon and improve soil quality. • Develop educational materials and Web sites for producers, the agricultural and energy industry, and policy makers on issues related to implementing a soil carbon sequestration program. • Develop a scientific basis for policies that would enhance agricultural practices that enhance soil carbon sequestration and provide incentive for producers. • Review, evaluate, and analyze existing information on crop production for biomass energy with the goal of synthesizing relationships between productivity, land class, water availability, and economic potential. From these relationships, build a decision support model that will evaluate cropping strategies for biomass energy production that enhance farm financial performance and minimize adverse environmental impacts. • Develop educational materials and programs aimed at increasing the capacity to produce biomass for energy in Kansas. • Deliver education and technology transfer programs that address characterization and cost-effective abatement of airborne emissions from open lot feeding systems.

2. Brief description of the target audience

Agricultural producers, youths, policymakers/regulators, crop and livestock consultants

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	5000	25000	1000	2000
2007	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational programs delivered

Year	Target	Actual
2007	20	0

Output #2

Output Measure

- Number participating in educational programs

Year	Target	Actual
2007	400	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Number of producers adopting BMPs that protect environmental quality
2	Number of acres utilizing wastewater applications for crop production
3	Number of irrigators using evapotranspiration (ET)-based irrigation scheduling
4	Reduce effects due to depletion in Ogallala aquifer

Outcome #1

1. Outcome Measures

Number of producers adopting BMPs that protect environmental quality

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Abundant clean water is crucial to the Kansas economy. Air quality issues are presenting major challenges for confined animal feeding, as dust and odor-related complaints by the public rise. Animal agriculture is a major source of ammonia, which when combined with other gaseous pollutants, can form respirable particulate matter and contribute to regional haze problems; Kansas is among the seven states that have the highest ammonia emissions in the U.S., according to USEPA.

What has been done

* Educational program and public awareness campaign aimed at citizen action to meet TMDLs, especially abatement of fecal coliform bacteria.
* Educational and technical assistance provided for improved waste management to livestock producers.
* BMPs for land application of livestock waste and for reducing phosphorus, sediment, and pesticides in surface runoff from cropland and grazing lands evaluated.
* Benefits and design of riparian buffers and other kinds of vegetated filter strips for Kansas evaluated.

Results

Data unavailable.

4. Associated Knowledge Areas

KA Code	Knowledge Area
141	Air Resource Protection and Management
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
121	Management of Range Resources

Outcome #2

1. Outcome Measures

Number of acres utilizing wastewater applications for crop production

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20000	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

data unavailable

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
102	Soil, Plant, Water, Nutrient Relationships

Outcome #3

1. Outcome Measures
Number of irrigators using evapotranspiration (ET)-based irrigation scheduling

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Water for irrigation is the single largest use in Kansas and water resource use demands are increasing. Pumping costs for irrigation also continue to increase. Therefore, both political and economic pressures are placed on irrigators to use irrigation water as optimally as possible. ET-based irrigation scheduling is an irrigation water management procedure to match irrigation water applications to crop water use.

What has been done

KanSched, an ET based irrigation scheduling program, has been developed and distributed to Kansas irrigators as part of the Mobile Irrigation Lab (MIL) program. In addition, irrigators, crop consultants, and agribusiness and water agency personnel were offered hands-on computer training on KanSched and other irrigation decision support software. ET is short for evapotranspiration, which is a term used to quantify crop water use requirements.

Results

Three generations of the KanSched program were developed and released for public use beginning with an Excel version in 1996. KanSched2 , the current version released in 2007, has new features to allow irrigators more flexibility in customizing the program to their crop and field conditions, while maintaining the initial programming goal of keeping the program user-friendly and easy to use. KanSched was adopted by the Kansas NRCS as the approved scheduling program in Kansas. It is also used by several major crop consulting firms and many independent crop consultants as their base irrigation scheduling tool. Over 2000 individuals attended MIL KanSched computer training sessions. The program has been widely shared via CD and web-based distributions. KanSched users are known in 10 US states. Based on producer and consultant requests, KanSched3 is being planned to incorporate several additional features.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water

Outcome #4

1. Outcome Measures

Reduce effects due to depletion in Ogallala aquifer

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Through research and education work toward policy to reduce depletion. Simulation models were developed to assess the economic impacts of depleting the Ogallala aquifer in western Kansas. Model projections over a 60-year horizon suggest that farmers will adapt by irrigating fewer acres, instead of reducing per-acre application rates. Such changes would reverberate through other sectors in the regional economy, hampering employment and income growth in the most agriculture-dependent areas.

What has been done

Simulation models are currently being run to determine the effects of alternative policies and the elevated crop prices from biofuels. The models were initially run assuming that current policies continue and that price conditions representative of the early 2000s would prevail over the simulation period. Under these assumptions, the depletion process would nearly run its course in 60 years for the average county in the region.

Results

In a recently completed case study in northwest Kansas, K-State researchers collaborated closely with the local groundwater management district board to validate the model and refine policy alternatives. The model projections indicated that pumping restrictions were a more cost effective strategy than water right retirement; reducing pumpage from all active wells imposed substantially less costs on the local economy in the short run for greater gains in water availability in the long run. The local board found these features of the policy attractive and have since recommended it to the state water planning board. Land would continually exit irrigated production, eventually reaching the point where the water withdrawn for irrigation balances the natural rate of recharge.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges

Brief Explanation

Kansas weather created numerous outreach opportunities in 2007. From the blizzard in Western Kansas, to the Easter freeze, to the May 4 tornado that wiped out 90 percent of Greensburg, to floods in Southeast Kansas, and the December ice storm that left thousands without electricity, K-State Research and Extension took an active role. With an office in each county, its ongoing presence provides information, contacts, and support.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

-

Evaluation Results

Key Items of Evaluation

Program #5

V(A). Planned Program (Summary)

1. Name of the Planned Program

Competitive Agricultural Systems

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	5%		10%	
205	Plant Management Systems	30%		15%	
216	Integrated Pest Management Systems	5%		10%	
307	Animal Management Systems	40%		20%	
311	Animal Diseases	0%		25%	
601	Economics of Agricultural Production and Farm Management	20%		15%	
606	International Trade and Development	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	68.3	0.0	108.2	0.0
Actual	14.0	0.0	2.2	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1313970	0	1558572	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
5297295	0	13751332	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2259060	0	2806616	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

• Evaluate and develop technologies and production strategies that will enhance production efficiencies and industry profitability. • Conduct research to improve productivity, reduce costs, reduce nutrient output on livestock waste, improve profitability, and increase production of safe, wholesome, and nutritious products. • Increase producers understanding of their role in producing a wholesome, safe food product. • Improve the yielding ability and quality of the agronomic crops uniquely adapted to Kansas and the Central Plains, through plant breeding and genetics. • Develop integrated, sustainable cropping systems, which will enhance the intensity, diversity and profitability of crop production. • Improve resource use efficiency (water, soil and inputs) within diverse and sustainable cropping systems. • Enhance the development of the horticulture industry in Kansas. • Manage afforestation and reforestation of Kansas to promote biodiversity, wildlife habitat and forest products. • Assist producers in improving the economic efficiency of crop and livestock production enterprises and the marketing of products through research and educational programs. • Contribute to the development of extensive and intensive animal production and management systems that are economically viable, ecologically sustainable, and compatible with safe and humane treatment of animals. • Conduct applied research and educational programs, which will assist managers in assessing risk and developing risk management strategies for their farm, ranch, or agribusiness. • Provide educational programs that assist farm managers in addressing key and emerging issues in the agricultural production sector. • Develop decision support systems to meet the needs of large- and small-scale farmers and agribusinesses. • Conduct applied research and educational programs, which will assist agribusiness managers, including producer-owned cooperatives, improve the profitability and sustainability of their businesses. • Provide one-on-one financial, economic and farm business planning and management assistance through the Kansas Farm Management Association program. • Provide tools and education for improved farm-level record keeping and analysis, including whole-farm and enterprise analysis and benchmarking. • Develop tools and educational programs to assist producer groups in evaluating bio-fuel alternatives. • Develop and disseminate economic-based information that will facilitate business development focused on value-added marketing and processing of agricultural products. • Develop case studies on cooperatives and value-added ventures.

2. Brief description of the target audience

• Farm and ranch managers • Agricultural producers and agribusinesses throughout the food industry supply chain • Farm input suppliers, lenders, Extension educators, and policy makers

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	10000	25000	1000	2000
2007	18675	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	3
2007 :	2

Patents listed

* Baculoviruses Overexpressing Fibroblast Growth Factors
* Frequency-Response Sensor Probe and Associated Signal Conditioning/Processing for Real-Time and Simultaneous Measurement of Multiple Properties of Liquid and Gaseous Dielectric Materials

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	15	50	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of individuals participating in programs

Year	Target	Actual
2007	10000	10800

Output #2

Output Measure

- Number of new/improved varieties, inbreds, germplasm developed and released

Year	Target	Actual
2007	2	2

Output #3

Output Measure

- Number of educational events (e.g., meetings, demonstrations, field days, press releases, and distributed publications) deliver

Year	Target	Actual
2007	500	16

Output #4

Output Measure

- Number of producers engaged in one-on-one consultations through Kansas Farm Management Association or Farm Analyst p

Year	Target	Actual
2007	3000	3110

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Number of livestock producers who demonstrate best management practices (BMPs) including genetic selection, reproduction, nutrition, health, animal care and well-being, livestock safety and quality, environmental management, and optimal marketing strategies
2	Number of Kansas farms and ranches increasing awareness of financial performance
3	Number of acres planted to KAES-developed materials or materials derived from KSU varieties, inbreds, or germplasm
4	Number of crop producers who adopted BMPs
5	Number of crop acres using soil testing as a basis for nutrient applications
6	Percent of producers demonstrating improvement of Kansas ground and surface water with respect to nutrient loads
7	Number of soil samples evaluated on Kansas crop acreage
8	Changes in average or typical observed cropping systems, rotations, and crops
9	Hours and activities reported annually by Master Gardener volunteers
10	Number of farmers' markets established and/or expanded

Outcome #1

1. Outcome Measures

Number of livestock producers who demonstrate best management practices (BMPs) including genetic selection, reproduction, nutrition, health, animal care and well-being, livestock safety and quality, environmental management, and optimal marketing strategies

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	725

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A major focus of the extension livestock programming in all species in 2007 was helping producers deal with the rapid increase in ingredient prices. The cost of production for livestock producers increased dramatically throughout the 2007 calendar year and continues to escalate through today. Beef, dairy, swine, poultry, and equine producers are all impacted. Two main avenues to help reduce this impact are lower feed usage and increased productivity.

What has been done

Livestock producers were educated through conferences, one-on-one consultation, phone calls, news releases, magazine articles, radio interviews, and trade publications. The process was to first create awareness of the impact of the rise in grain and other ingredient prices on cost of production. Then, major avenues to reduce feed usage were communicated using field trials, demonstrations, and results of research trials.

Results

Although the impact of high ingredient prices on the cost of production can not be eliminated, the impact was reduced through our work. A short-term response of producers was to reduce feed wastage through improved feeder adjustment, better bunk management, reduced grain particle size, and selling cull animals more quickly. Producers increased use of alternative ingredients, such as dried distiller grains, pet food fines, and other byproduct ingredients. Producers also reformulated diets to lower margins of safety to more closely meet the nutrient requirements of the livestock. Producers also focused on market weights to limit the impact of the rise in feed cost. As a longer-term focus, some producers changed their genetic selection programs in anticipation that feed efficiency will be at a premium for the foreseeable future. This is one important example where K-State Research and Extension helped limit the impact of the rise in ingredient costs on Kansas farms.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
307	Animal Management Systems

Outcome #2

1. Outcome Measures

Number of Kansas farms and ranches increasing awareness of financial performance

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3000	3110

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Financial management issues are huge on farms.

What has been done

Financial records were developed and analyzed for these farmers.

Results

Farms get individualized records and budgets and benchmarks in order to analyze their financial performance.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #3

1. Outcome Measures
Number of acres planted to KAES-developed materials or materials derived from KSU varieties, inbreds, or germplasm

2. Associated Institution Types

•1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7500000	7235000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

KAES develops varieties and germplasm lines that benefit the
Kansas farmer either directly through new varieties or enhanced germplasm. Kansas has active breeding programs for wheat, sorghum, and soybeans. Wheat and sorghum are critical to the state because of relatively low investments by commercial entities for these crops. The soybean program develops releases that are better adapted to Kansas conditions than commercially available materials.

What has been done

This past year two new soybean lines, KS5007sp and KS4607 were released. At the same time, KAES varieties and germplasm has been used by many crop breeders to develop new varieties for the producers in Kansas and other states. The wheat breeding program is adding focus on developing resistance to abiotic stresses. Disease resistance will remain an emphasis. The sorghum breeding program in in the process of commercializing herbicide-resistant varieties that have been released to seed companies.

Results

The majority of the wheat grown in Kansas is either KAES
varieties or has used KAES varieties or germplasm in the development of new varieties. The sorghum breeders, that develop sorghum hybrids for use in Kansas, use KAES germplasm to enhance the pest resistance.The majority of the wheat grown in Kansas is either KAES varieties or has used KAES varieties or germplasm in the development of new varieties. The sorghum breeders, that develop sorghum hybrids for use in Kansas, use KAES germplasm to enhance the pest resistance. One K-State wheat variety release, Overly, was planted on more acres than any other variety available in the state in 2007. Herbicide-resistant sorghum genetic materials were released to seed companies in 2007 and commercially available varieties may be available to growers as early as 2011.

4. Associated Knowledge Areas

KA Code	Knowledge Area
201	Plant Genome, Genetics, and Genetic Mechanisms

Outcome #4

1. Outcome Measures

Number of crop producers who adopted BMPs

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

data unavailable

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #5

1. Outcome Measures

Number of crop acres using soil testing as a basis for nutrient applications

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30000	4700000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Phosphorus is a critical nutrient for crop production in Kansas. 53% of the crop acres tested would be expected to respond to applied P fertilizers. But the remaining 47% would not. Phosphorus fertilizer prices have increased over 250% in the past two years. Soil testing can help allocate production resources to minimize production costs.

What has been done

Regular electronic updates every two to three weeks to Extension Agents, CCAs, Crop Consultants, and Industry Agronomists have been used to keep soil testing on peoples minds. Radio tapes with KSU Radio Service. News releases aimed at weekly farm press. Educational programs at county winter schools, field days and industry training programs have also been used. These programs will increase in intensity in 2008.

Results

Recent soil test summaries indicate that the majority of the fields tested have P soil tests in a responsive range, indicating that most growers using soil testing as a nutrient management tool are following KSU fertilizer recommendations. However, approximately 17% of the samples have ST-P levels above 50 ppm, levels where additional P would not be recommended. This is an opportunity for new educational programming to make farmers more aware of this valuable resource available on their farms, allowing them to reduce fertilizer costs on those acres.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
205	Plant Management Systems

Outcome #6

1. Outcome Measures
Percent of producers demonstrating improvement of Kansas ground and surface water with respect to nutrient loads

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Access to water for drinking, recreational and aquatic life habitat, and ground water recharge as well as irrigation, livestock and industrial uses.

What has been done

Five watersheds were targeted for rapid implementation of BMPs for atrazine herbicide. Three integrated agricultural management sites were established to demonstrate and evaluate best management practices for pesticides, sediments, and nutrients.

Results

Farmers implemented atrazine BMPs on 7616 acres of grain sorghum and 2896 acres of corn in five targeted watersheds. This equated to 39% of the grain sorghum acres and 41% of the corn acres. Actual water monitoring of treated and untreated watershed found approximately 18% lower atrazine concentrations in streams in targeted watersheds in which BMPs had been implemented.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #7

1. Outcome Measures

Number of soil samples evaluated on Kansas crop acreage

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10000	78319

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Fertilizer costs have increased dramatically in the past 18 months. Soil testing is an excellent tool to help utilize fertilizers most efficiently and contain production costs.

What has been done

Regular electronic updates every two to three weeks to Extension Agents, CCAs, Crop Consultants, and Industry Agronomists have been used to keep soil testing on peoples minds. Radio tapes with KSU Radio Service. News releases aimed at weekly farm press. Educational programs at county winter schools, field days and industry training programs have also been used. These programs will increase in intensity in 2008.

Results

The numbers of samples submitted to the KSU Soil testing lab for P, K and pH analysis has increased at a 2-3% rate for the past decade. Opportunities still exist for continued adoption of this important management tool. Particularly, increased use of soil testing for nitrate nitrogen.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #8

1. Outcome Measures

Changes in average or typical observed cropping systems, rotations, and crops

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Disease and insect pressure and problems are associated with these practices, as well as, planting depth and seedling emergence problems. Conventional tillage often leaves soil exposed to wind and/or water erosion. More complex rotations and additional crops are usually a key component for success of reduced or no-till systems. Increased input costs have also increased interest in systems that decrease fuel and fertilizer costs.

What has been done

There has been increased use of continuous wheat in the traditional wheat-fallow and wheat-row crop-fallow area of western Kansas and increased no-till continuous wheat in central Kansas. At meetings, field days, and crop tours these issues are addressed. Some on-farm demonstrations and applied field research has been conducted.There has been increased use of continuous wheat in the traditional wheat-fallow and wheat-row crop-fallow area of western Kansas and increased no-till continuous wheat in central Kansas. At meetings, field days, and crop tours these issues are addressed. Some on-farm demonstrations and applied field research has been conducted. Hundreds of producers, nearly 50 Extension agents, and more than 500 crop advisors/consultants were educated about conserving soil and water and reducing input costs via reduced tillage and crop rotations.

Results

Farmers are selecting resistant wheat varieties, making adjustments in fertilizer applications, and monitoring planting depth and speed.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #9

1. Outcome Measures

Hours and activities reported annually by Master Gardener volunteers

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	68000	81000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Extension agents often have a greater demand for horticultural programming than they can deliver personally. The Extension Master Gardener program trades horticultural training for volunteer hours in order to meet this demand.

What has been done

In 2007, there were 1070 active Extension Master Gardeners. The 81,000 hours were all educational in nature and included such activities as an answer hot line, presentations, demonstration gardens, manning booths at garden shows.

Results

More than 81,000 hours were donated during 2007. This equates to more that $1.4 million worth of time.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #10

1. Outcome Measures

Number of farmers' markets established and/or expanded

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Outreach and assistance to farmers' markets is a priority for the Kansas Center for Sustainable Agriculture and Alternative Crops. The Center serves as a resource for producers, organizations, and agricultural professionals in search of information related to sustainable agriculture.

What has been done

As a result of training and technical assistance, the Emporia Farmers' Market Coordinator assisted two venders expand into high tunnel production which extend the growing season. The Grow Your Farmers Market project hosted seven conferences that provided an overview of the research, marketing techniques, regulations and management approaches necessary to develop successful farmers' markets.

Results

The addition of early season vegetables with the use of high tunnels resulted in a 20% sales increase and 400 more people attended the Emporia Farmers' Market. Thirty-five mentoring partnerships between master marketers and apprentices were coordinated through the Grow Your Farmers Market project.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges
- Other (Technological change)

Brief Explanation

Kansas weather created numerous outreach opportunities in 2007. From the blizzard in Western Kansas, to the Easter freeze, to the May 4 tornado that wiped out 90 percent of Greensburg, to floods in Southeast Kansas, and the December ice storm that left thousands without electricity, K-State Research and Extension took an active role. With an office in each county, its ongoing presence provides information, contacts, and support.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

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Evaluation Results

Key Items of Evaluation